

BACKGROUND

Veterinary Services

United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

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Equine Piroplasmosis and the 1996 Atlanta Olympic Games

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) and the Georgia Department of Agriculture (GDA) are jointly responsible for the veterinary regulatory oversight of international movements of horses into the United States for the 1996 Olympic Games in Atlanta, GA.

To protect U.S. animal health, State and Federal veterinarians will implement stringent protocols established for the testing, quarantine, supervision, and treatment of all horses participating in the Olympic Games.

Federal regulations require that all horses entering the United States must first be negative on a test for dourine, glanders, equine infectious anemia, and equine piroplasmosis (EP). Of particular concern both domestically and internationally is the EP testing requirement.

The Disease

EP is present in South and Central America, the Caribbean (including Puerto Rico), Africa, the Middle East, and Eastern and Southern Europe. This disease is caused by two parasitic organisms, *Babesia equi* and *Babesia caballi*. Although EP is primarily transmitted to horses by ticks, this bloodborne disease has been spread mechanically from animal to animal by contaminated needles.

Once infected, a horse can take from 7 to 22 days to show signs of illness. Cases of EP can be mild or acute, depending on the virulence of the parasite. Acutely affected horses have fever, anemia, jaundiced mucous membranes, a swollen abdomen, and labored breathing. EP can also cause horses to have roughened hair coats, constipation, and colic. In its milder form, EP causes horses to appear weak and show lack of appetite.

EP can have a mortality rate as high as 20 percent among susceptible horses in areas where the disease does not exist, such as the U.S. horse population. Infected horses that survive the infection may carry the parasites for prolonged periods of time, but the potential of the disease spreading by tickborne transmission, mechanical transfer, or biting insects is minimal if appropriate risk mitigating factors are in place. An effective drug therapy treatment exists for *B. caballi*; however, a compatible chemotherapeutic drug to treat *B. equi* is still under development.

The last major reported outbreak of EP occurred in the United States in 1961 after the parasite was introduced into Florida by imported Cuban horses. State and Federal officials controlled the outbreak through a 10-year program of disease treatment and tick control efforts. In 1981, an isolated outbreak occurred in Paso Fino horses imported from South America and Cuba. It is assumed that the continental United States is free of EP because of the absence of any reported cases, and because the more than 2,500 horses tested for EP in fiscal year 1994 as a condition of exportation were all found free of the disease.

The Tick Vectors

In the Western Hemisphere, the principal vector of *B. caballi* is the horse tick (*Dermacentor nitens*), a tick that has never been found in the Atlanta area. The northernmost location in the United States where these ticks exist is central Florida. Another tick, the American dog tick (*Dermacentor variabilis*), exists in most of the United States (including Atlanta) and in parts of southern Canada. This tick has experimentally demonstrated an ability to transmit EP, but there is no evidence that such transmission has occurred naturally in the United States. Once EP is established in a tick population, the disease is almost impossible to eradicate because the organisms are perpetuated almost indefinitely by tick-horse-tick feeding cycles. In addition, the *B. caballi* organism can be transferred from parent to offspring within a tick population.

The Request for a Waiver

In May 1994, the Federation Equestre Internationale (FEI), an organization representing European equestrian interests, petitioned USDA to waive its EP testing requirements for the 1996 Olympic Games. This EP test requirement has been waived for other international equestrian events under "special event" agreements between participants and APHIS. Past waivers, such as the 1984 Olympics in Los Angeles, were granted on a case-by-case basis after APHIS officials determined that the health risks to the U.S. horse industry were successfully controlled.

In response to the FEI's request, APHIS conducted a comprehensive risk assessment to evaluate the potential health problems associated with importing EP-positive horses for the Olympic Games. APHIS and GDA officials have been working to determine whether the potential health problems identified in the risk assessment can be effectively managed through quarantines and other risk-mitigating measures.

APHIS' Risk Assessment

The provisions of the General Agreement of Tariffs and Trade (GATT) require that a signatory nation's import requirements be scientifically based and transparent and that sanitary measures be based upon scientific assessments using regional approaches. To meet the international obligation under GATT for treating signatory countries equitably, APHIS conducted a scientific assessment of the potential health risks associated with allowing EP-positive horses to compete in the Olympic Games.

Using mathematical models for various scenarios involving EP-positive horses competing in the Olympics in Atlanta, the assessment estimated that the risk of the local tick population becoming infected with EP increased in proportion to the length of time EP-positive horses remained in the area. It has been recommended that horses be allowed entry at least 3 weeks before the start of the Olympics for climatic acclimation to avoid heat stress problems.

Although the assessment showed that the risk of EP-infected ticks being transferred between Olympic horses is minimal, especially since only 6 percent of EP-positive horses can transmit the disease, it is possible that the disease could be introduced into local tick populations, which could result in future transmission to susceptible horses at the Olympic site. This is because *B. caballi*-infected ticks become reservoirs for transmitting the organism from generation to generation. American dog ticks would also remain infected with *B. equi* for their full life cycle, which usually spans 2 years or more. During the 1984 Olympics in Los Angeles, waivers were granted to EP-positive horses; however, the climate and

natural tick species found in southern California did not raise the same concerns identified about possible EP tick vectors in Atlanta.

To develop the alternative conditions for waiving the EP negative test requirement on indoor event horses, APHIS and state officials considered the highest risk factors identified. The risk assessment showed that a combination of risk-mitigating factors, such as strict quarantine procedures and tick control measures, would be more likely to prevent EP introduction than either EP testing or tick control alone.

The Conditions for Granting a Waiver

Understanding that the wish to see all eligible competitors participate in the Olympics, State and Federal officials have worked hard to explore alternatives to requiring negative EP tests in order for horses to participate in the Olympics. These risk-mitigating measures were designed after substantial analysis of scientific information about this disease, the USDA risk assessment, evaluation of the historical background of the FEI's request for a waiver, and an evaluation of alternative options to requiring the test.

The alternative with the least risk is to exclude EP-positive horses from the marathon portion of 3-day eventing but allow EP-positive horses to compete in dressage and jumping under a signed agreement. (Three-day eventing has a marathon phase in which horses travel through wooded areas thus increasing their possible exposure to ticks.) As long as safeguards are implemented at no additional cost to Federal or State governments, the proposed waiver stipulates that a limited number of horses may enter the United States under the following conditions:

- EP-positive horses must be transported under quarantine conditions directly from the import station to the Georgia International Horse Park (GIHP) after entering the United States. None of these horses will be allowed to enter more than 21 days before their competition.
- EP-positive horses will be maintained in a fenced, quarantined isolation area at the GIHP. Movement out of the quarantined area will only be allowed for warmup immediately before the competition or for veterinary emergencies.
- EP-positive horses will remain under 24-hour surveillance by APHIS and GDA officials.
- EP-positive horses will be restricted to areas free of vegetation at all times.
- EP-positive horses will be examined every day at about 8-hour intervals by GDA and APHIS officials. The horses will be treated with an approved pesticide every 7 days.
- EP-positive horses will have distinct, irremovable identification at all times.
- EP-positive horses will leave the United States within 7 days after competing.

The agreement also stipulates that the GIHP must maintain a comprehensive tick suppression program for the Olympic horses, and strict biosecurity measures which require the following:

- The GIHP facility will implement an effective rodent control program before horses arrive and during the events to prevent the presence of ticks.
- The GIHP will be circumferentially fenced prior to the horses arrival to prevent the entrance of wildlife that could harbor ticks.
- Pets will be prohibited from the grounds of the GIHP.
- Only a limited number of persons will have access to the EP quarantine area. Those with access will sign a statement attesting to their compliance with EP restrictions. Any violators would be disallowed from further competition.
- The core facility of the GIHP will be monitored for the presence of ticks and the possible presence of EP before, during, and after the equestrian events. Surveillance activities will include small mammal trapping, sentinel horses, and tick collection and submission for identification and EP testing.
- Animal wastes will be removed and treated in a manner determined appropriate by regulatory officials.
- Hay for the horses must be procured from tick-free areas.
- Bedding for the horses will be of a material not conducive to harboring ticks.

Summary

If EP-positive horses enter the United States for equestrian events in Atlanta, we will work diligently to ensure complete adherence to regulatory requirements. APHIS supports the Olympic spirit and world-class competition, but we cannot compromise the health status of our own equine population for this purpose. We feel confident that the proposed conditions reflect the scientific data and offer the best arrangements to support the Olympic Games and protect equine health.